

Remarks

The above Amendments and these Remarks are in reply to the Office Action mailed January 16, 2008. Claims 1-13, 15-30, 32-37 and 40-42 were pending in the Application prior to the outstanding Office Action. Claims 1, 2, 15, 17-19, 32 and 34 are being amended. Claims 4-13, 21-30, 35-37 and 40-42 are being canceled. Thus, claims 1-3, 15-20 and 32-34 remain for the Examiner's consideration. In view of the above amendments and the following remarks, reconsideration and withdrawal of the outstanding rejections are respectfully requested.

Applicants are not disclaiming the canceled claims, and reserve the right to pursue any of the canceled claims in a continuing application.

I. Specification

The specification was objected to because there was allegedly no description for the "computer readable medium" recited in Claim 40. Applicants disagree with this rejection. Nevertheless, this objection is moot because claim 40 has been canceled.

II. Double Patenting

Claims 1-5, 18-22 and 35-37 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 50, 52, 57, 59, 64 and 66 of co-pending U.S. Patent Application No. 10/784,375. Applicants believe that the claims as amended are now clearly patentably distinct from the claims of the co-pending '375 application. Accordingly, Applicants respectfully request that this rejection be reconsidered and withdrawn.

III. Summary of Rejections

Claims 1-3, 18-20 and 35-37 were rejected under 35 U.S.C. 102(a) as being anticipated by Christensen et al., "Extending Java for High-Level Web Service Construction" (hereinafter Christensen).

Claims 4-6, 12, 13, 21-23 and 29-30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Christensen in view of Meredith (U.S. Patent No. 6,516,322).

Claims 7, 8, 11, 24, 25 and 28 were rejected under 35 U.S.C. 103(a) as being unpatentable over Christensen in view of Mital (U.S. Patent No. 7,184,867).

Claims 9, 10, 26 and 27 were rejected under 35 U.S.C. 103(a) as being unpatentable over Christensen in view of Mital (U.S. Patent No. 7,184,867), as applied to Claims 7 and 24 above, further in view of Alonso et al. “Advanced Transaction Models in Workflow Contexts.”

Claims 15-17 and 32-34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Christensen in view of van der Aalst “XML Based Schema Definition for Inter-Organization Workflow.”

Claims 40 and 42 were rejected under 35 U.S.C. 103(a) as being unpatentable over van der Aalst “XML Based Schema Definition for Inter-Organization Workflow,” in view of Christensen.

IV. Discussion of Claims

A. Claim 1

Claim 1, as amended, is reproduced below for the convenience of the Examiner.

1. A method for extending an existing object oriented programming language, comprising the steps of:

selecting a program source file including a workflow definition created using an existing object oriented programming language, wherein the program source file includes a source code and classes therein and a workflow definition created using the existing object oriented programming language that is specified in the form of annotations to the source code and the classes; -

extending the existing object oriented programming language by adding at least one language construct defined by a second language so that the source code is extended with a plurality of workflow constructs defined by the second language, including adding an action construct representing an activity that allows a first software component written using the extended existing programming language to call an operation on a second software component written using the existing object oriented programming language; and

using a workflow program according to the workflow definition, including processing, using a computer including a processing device operating thereon, the action construct to allow the first software component written using the extended

existing programming language to call the operation on the second software component written using the existing object oriented programming language.

Claim 1 has been amended to further highlight features of an embodiment of the present invention. Applicants believe that claim 1 is now clearly distinguishable from Christensen. Some of the features of original claim 12 are now included in claim 1, as amended. Since original claim 12 was rejected based on the combination of Christensen in view of Meredith, Applicants explain below why claim 1 is patentable over Christensen in view of Meredith.

Column 13, lines 3-5 and 46-55 of Meredith were cited in the rejection of original claim 12. Column 13, lines 3-5 of Meredith merely says that “actions can be mapped to invocations on, for example, common object model (COM) objects, messages in queues, or other native technology behavior.” Column 13, lines 46-55 of Meredith merely says “It is to be appreciated that the SLANG programming language allows the description of elaborate ordering of actions. However, the descriptions of the actions remain abstract in that each action is expressed only in terms of a port and a message. This abstraction allows for modeling of business workflow processes across various technologies by providing the binding in a separate routine that describes the concrete realization of actions onto the various technologies (e.g., a COM component, a database table).” As explained at column 12, lines 45-50 of Meredith, SLANG is “a business workflow process and a scheduling programming language written in XML”.

Claim 1, as amended, includes the step of “extending the existing object oriented programming language by adding at least one language construct defined by a second language so that the source code is extended with a plurality of workflow constructs defined by the second language, including adding an action construct representing an activity that allows a first software component written using the extended existing programming language to call an operation on a second software component written using the existing object oriented programming language”. An exemplary existing object oriented programming language is JAVA, an exemplary second language is XML, and an exemplary extended existing programming language is JAVA extended to include an action construct defined by XML. Continuing with this example, the extending step of claim 1 could extend JAVA by adding at least one language construct defined by XML so that the source code is extended with a plurality of workflow constructs defined by XML, including adding an action construct representing an

activity that allows a first software component written using the extended JAVA to call an operation on a second software component written using JAVA.

Column 13, lines 3-5 and 46-55 of Meredith (which are quoted above), alone, or in combination with Christensen, clearly do not teach the details of the extending step of claim 1.

It was asserted on page 8 of the Office Action that “It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Christensen such that the XML integrated into JAVA contains constructs to specify workflow including an action construct representing an activity that allows a first software component written using the extended programming language (XML) to call an operation on a second software component written using another programming language as taught by Meredith *because the approach of Christensen generalizes in a straightforward manner to any arbitrary interaction language described by an XML schema and the XML constructs provide compositional specification of autonomously executing systems such that the cost of developing and managing applications that span business units connected by communications networks is greatly reduced.*” (emphasis added)

Applicants do not understand what is being stated in the above sentence of the Office Action, and do not understand how such reasoning was being used to obviate original claim 12. Applicants assert that Christensen and Meredith, alone or in combination do not teach the details of the extending step of claim 1 as amended, and thus Applicants respectfully request that claim 1 be allowed. However, should the Examiner use similar reasoning (used in rejecting original claim 12) to reject claim 1 as amended, Applicants respectfully request that the Examiner explain in further detail how the cited references are being applied to teach the details of claim 1 as amended.

B. Claims 2-3 and 15-17

Claims 2-3 and 15-17 depend from and add additional features to independent claim 1. These claims are patentable for at least the reasons discussed above with regards to claim 1, as well as for the features that they add.

C. Claim 18

Claim 18, as amended, is reproduced below for the convenience of the Examiner.

18. A computer system capable of extending an existing programming language, comprising:

a computer including a processing device operating thereon;

a program source file stored on the computer, wherein the program source file includes a workflow definition created using an existing object oriented programming language, wherein the program source file includes a source code and classes therein and a workflow definition created using the existing object oriented programming language that is specified in the form of annotations to the source code and the classes, and wherein the source code is extended with a plurality of workflow constructs defined by a second language, including an action construct representing an activity that allows a first software component written using the extended existing programming language to call an operation on a second software component written using the existing object oriented programming language; and,

means for using a workflow program according to the workflow definition, including processing, using a computer including a processing device operating thereon, the action construct to allow the first software component written using the extended existing programming language to call the operation on the second software component written using the existing object oriented programming language.

Claim 18, as amended, requires “a program source file stored on the computer, wherein the program source file includes a workflow definition created using an existing object oriented programming language, wherein the program source file includes a source code and classes therein and a workflow definition created using the existing object oriented programming language that is specified in the form of annotations to the source code and the classes, and wherein the source code is extended with a plurality of workflow constructs defined by a second language, including an action construct representing an activity that allows a first software component written using the extended existing programming language to call an operation on a second software component written using the existing object oriented programming language.”

For similar reasons to those discussed above with regards to claim 1, Applicants believe that claim 18 is patentable over Christensen and Meredith, alone or in combination.

D. Claims 19-20 and 32-34

Claims 19-20 and 32-34 depend from and add additional features to independent claim 18. These claims are patentable for at least the reasons discussed above with regards to claim 18, as well as for the features that they add.

V. Conclusion

In view of the above amendments and remarks, it is respectfully submitted that all of the claims now pending in the subject patent application should be allowable, and reconsideration thereof is respectfully requested. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting issuance of a patent.

The Commissioner is authorized to charge the required fees and any underpayment of fees or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this reply, including any fee for extension of time, which may be required.

Respectfully submitted,

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